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MARION-McDOWELL

Department of Community Colleges



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MARION-McDOWELL INDUSTRIAL EDUCATION CENTER

29 State Street
Marion, North Carolina

Catalogue of Courses
Day and Evening School

Volume 2
1967 - 1968

Academic Calendar

1967 - 1968

FALL QUARTER

Registration	September 5 - 6
Day Classes Begin	September 7
Night Classes Begin	September 7
Last Day for Registration	September 13
End of Fall Quarter	November 22

WINTER QUARTER

Registration	November 29 and 30
Day Classes Begin	December 1
Night Classes Begin	December 1
Last Day for Registration	December 7
Christmas Holidays	December 21 - January 1
Resume Classes	January 2
End of Winter Quarter	February 28

SPRING QUARTER

Registration	March 4 - 5
Day Classes Begin	March 6
Night Classes Begin	March 6
Last Day for Registration	March 12
Easter Holidays	Good Friday, Easter Monday
End of Spring Quarter	May 24

SUMMER QUARTER

Registration	June 3 - 4
Day Classes Begin	June 5
Night Classes Begin	June 5
Last Day for Registration	June 10
End of Summer Quarter	August 21

TABLE OF CONTENTS

Academic Calendar	2
Administration	4
Foreword	5
Programs of Study	6
Administrative Procedures	7
Admission Procedure	7
Degrees, Diplomas and Certificates	8
Graduation Requirements	8
Grading System	9
Student Insurance	10
Attendance and Withdrawals	10
Veteran's Information	11
Registration	12
Curricula Listing for Programs of Study	13
Application for Admission	Inside back cover

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Dr. Monroe C. Neff	Educational Director, of General Adult Educational Programs
Dr. Gordon B. Pyle	Educational Director of College Parallel Programs

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Mr. Eugene Cross, III	Mr. Terry Moore
Mr. Vernon T. Eckerd	Mr. Paul Story
Mr. Charles S. Johnson	

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Mr. Charles E. McKinney	Acting Evening Director
Mr. Jerry VanDyke	Director of Extension
Mr. Thomas L. Blackburn	Counselor
Mrs. Sally Patterson	Bookkeeper
Mrs. Ruth Hughes	Secretary

DAY SCHOOL FACULTY

Mrs. Ann Harris	Business Administration and Secretarial
Mr. C. B. Branson	Drafting
Mr. James R. Brown	Auto Mechanics
Mr. Charles E. McKinney	Business Administration
Mrs. Janet Estes	Secretarial

EVENING INSTRUCTORS

Mrs. Janet Estes
Mr. D. C. Revis
Mr. Jim Baldwin
Mr. Jim Long
Mr. Ardith Taylor

ADULT EDUCATION

Mr. Donald Cecil
Mr. Ralph Greene
Mr. Earl Duncan
Mrs. Ruth Hawkins

LEARNING LAB

Mr. J. V. McMahan

Mrs. Linda Lonon

FOREWORD

Good education must develop citizens who work as well as play; produce as well as consume; create as well as appreciate. Vocational and Technical education for youth and adults, is playing a major role in reaching these objectives. Preparation for work, through the Community Colleges, Technical Institutes, and Industrial Education Centers of North Carolina provide functional education for North Carolina citizens, developing occupational competency along with social and civic responsibilities.

The Community College system in North Carolina is functioning in two important ways to justify North Carolina's faith in education. It is making educational programs more attractive and meaningful for a larger number of youths. At the same time, areas of instruction develop the basic skills and technical knowledge necessary to increase the productive capacity of workers, upon which depends North Carolina's industrial growth and development.

PROGRAMS OF STUDY

TECHNICAL DIVISION

Courses offered in the technical division are designed to meet an increasing demand for high level industrial skills in North Carolina. Students entering the Technical division are required to meet educational and aptitude standards appropriate to the course chosen. Such standards require a firm educational base and a level of maturity expected of adults.

Students who successfully complete courses in this division will be prepared to offer prospective employers the training, knowledge, and skill necessary to work as an Industrial Technician. More time will be required to attain such a degree of proficiency than would be necessary in the less exacting trade courses. Applicants for the technical division will therefore be urged to enroll for the full-time program.

TRADE DIVISION

Courses in the trade division place emphasis on training in those manipulative and mental skills applicable to the particular curriculum in which the student is enrolled. Students work under close supervision to obtain skills on a level acceptable to industry.

EVENING PROGRAMS

In addition to the full-time programs offered during the day, most of the same curricula are offered on a part-time basis in the evening. These classes meet Monday through Thursday for a total of fifteen hours a week.

Students who enroll in these programs generally work at full time jobs during the day.

Upon successful completion of these evening courses, the A.A.S. degree is conferred in the technical areas while a diploma is awarded in the trade areas.

EXTENSION DIVISION

Short term courses are provided for men and women who though employed, seek to upgrade, update, and generally enhance their individual knowledge and performance. Also available are supervisory-level courses designed to stimulate those individuals who aspire to advance their knowledge in the fields of management, and firemanship training for volunteer-firemen concerned with improving their skill.

Training for new and expanding industry constitutes an important segment of the extension division. In cooperation with the industry involved workers may be trained for specific occupational areas.

GENERAL ADULT EDUCATION

To meet the challenge of the space age, the curriculum of adult education will provide studies in subjects as current as the morning headlines and as old as organized knowledge. Any adult, 18 years of age or older, is eligible to enroll in this area. Today's program stresses training or retraining for jobs or up-

grading in business or industry, homemaking and parent education, areas of instruction of special community interest, and a high school diploma program for those adults who wish to attain a high school equivalent diploma.

ADMINISTRATIVE PROCEDURES

General Requirements

The Marion-McDowell Industrial Education Center is a co-educational institution and any North Carolina citizen may enroll in a course provided he meets educational requirements. Requirements will vary depending upon the division in which an applicant seeks training and the particular course desired.

An applicant must be eighteen years of age or older or a high school graduate and must possess certain attitudes, aptitudes, and interests. No applicant may enroll in more than one curriculum at any given time.

Applicants desiring to pursue a course in the technical division must be high school graduates or equivalent.

The Marion-McDowell I.E.C. follows the "Open Door" policy established by the State Board of Education. This policy provides for the admission of any North Carolina citizen who has reached the age of 18, or whose high school class has graduated. This policy is based on the belief that the school has something to offer at all educational levels and that through effective guidance a person can find his or her place in the proper educational program.

ADMISSION PROCEDURE

Persons planning to pursue courses at the Marion-McDowell Industrial Education Center must secure an application blank for admission. Application forms may be obtained in person or by writing or telephoning the Center which is located at 29 State Street, Marion. The telephone number is 695-0183.

Applicants will be required to complete the following steps:

1. Make application.
2. Submit a transcript of high school records.
3. Complete a general aptitude test.
4. Arrange for an interview with the Counselor.

The center office is open from 8:30 a.m. to 10:00 p.m. Monday through Thursday and on Friday until 5:00 p.m.

Testing

The Co-operative English and Mathematics tests and the Otis Mental Maturity Test are administered prior to admission. These tests help in placement and serve as an aid in counseling students.

DEGREES, DIPLOMAS AND CERTIFICATES

DEGREE PROGRAMS DEFINED

Inasmuch as Marion-McDowell Industrial Education Center is a unit of the Asheville-Buncombe Technical Institute, the Institute will confer an Associate in Applied Science degree in all Technical Curriculums. This degree is conferred in the name of the North Carolina State Board of Education when all requirements for graduation have been satisfied.

DIPLOMA PROGRAMS DEFINED

The Marion-McDowell Industrial Education Center will award a State Diploma in all Trade Curriculums. This diploma will be granted in the name of the North Carolina State Board of Education when all requirements for a graduation have been satisfied.

CERTIFICATES

Certificates are issued in the name of the Marion-McDowell Industrial Education Center to students who successfully complete any short term program or course.

DEGREE AND DIPLOMA REQUIREMENTS FOR GRADUATION

The following list is established as minimum requirements for the Associate in Applied Science degree and State Diploma.

1. Complete all course requirements as outlined by curriculums, and earn at least a 2.0 grade point average in courses presented for graduation.
2. Application for graduation must be submitted to the Counselor one quarter prior to completion of course requirements.
3. Prospective graduates must be recommended by the chairman of the department, in which a student completes his or her major work.
4. Fulfill all financial obligations to the Center.
5. Be present for graduation exercises which are held during the latter part of August each year. Exceptions to this requirement in cases of unavoidable absences, may be granted by the Director.

Graduation Requirements

Upon successful completion of a prescribed course at the Center, students will be allowed to graduate. Successful completion means that all grades must be passing or better. Students who fail individual subjects or have incompletes will be required to make up such deficiencies before being allowed to graduate.

Degrees and diplomas will be awarded those finishing technical and trade curriculums.

Certificates of completion will be granted all students successfully completing short-term courses.

The Marion-McDowell Industrial Education Center grants diplomas and certificates in the name of the North Carolina State Board of Education.

QUALITY POINTS

At the end of each quarter quality points are assigned in accordance with the following formula. (The minimum grade-point ratio for graduation is 2.00 or an average grade of C.)

A—4 quality points per credit hour

B—3 quality points per credit hour

C—2 quality points per credit hour

D—1 quality point per credit hour

Grades of F, WP, WF, and I carry no quality points.

Quality ratings are determined by dividing the total number of quality points by the number of hours attempted. If a course is repeated, the last grade will be used in determining a student's hour-quality point ratio. A ratio of 2.00 indicates that the student has an average of C; above 2.00 indicates that he has an average above C; below 2.00 indicates that he has an average below C.

Grading System

Grades will be issued to all students at the end of each quarter by the following system:

A	93-100	Excellent
B	86-92	Above Average
C	78-85	Average
D	70-77	Passing
F	Below 70	Unsatisfactory
WP	Withdrawal passing	
WF	Withdrawal failing	
I	Incomplete	

Incomplete grades must be made up within six weeks of the following quarter.

Fees and Refunds

Registration Fee	2.00
Tuition Fee:	
Full-time students (per quarter)	32.00
Part-time students (per credit hour)	2.50

In addition to the above charges, students must buy the textbooks prescribed in various areas. Students will be advised in advance of the approximate total cost involved.

Under no circumstances will the \$2.00 registration fee be refunded. Tuition refunds for full-time students shall not be made unless the student is compelled to withdraw for unavoi-

able reasons. In such cases, \$20 may be refunded, if the student withdraws within 20 days after the beginning of the term. No refund may be given after 20 days.

Work Study Plan

The Center participates in the work study program of 1963 Vocational Education Act. Students may work for the school a maximum of fifteen (15) hours per week while in school. The extent of this program is, of course, determined by the amount of funds available.

Student Insurance

Certain risks are inherent in any work involving regular contact with mechanical and electrical equipment. While stringent precautions will be taken to insure safety, it is felt to be in the interest of all students to provide some measure of insurance protection.

A group policy providing the desired insurance protection will be maintained in effect by the Center and all students will be **REQUIRED** to subscribe to such coverage. The cost of accident insurance to the student will be approximately \$2.50 per year.

Attendance

Regular attendance is imperative if a student is to get full benefit of a course of study, therefore absences must be kept to a minimum. Upon returning to school after missing one or more classes, students must get absences excused by contacting the Student Personnel Office. Absences not excused within three days after the student returns to school will be recorded as unexcused. Unexcused absences totaling more days than two-thirds the number of quarter hour credits allowed for the course will result in a penalty of 2 points per absence from the accumulated class grade average. An absence the first day of a quarter, or on the day before or after a holiday will be treated as an unexcused absence with loss of grade points unless prior permission has been granted by the Student Personnel Office.

Withdrawals

Students who must withdraw passing, because of illness or personal hardships, may re-enter the course as a beginning student provided that such re-entry is taken upon the next immediate offering.

Students may be dismissed from school for failure to maintain passing grades and for infraction of rules and regulations that apply to student conduct. Students will be expected to conduct themselves at all times as mature adults. Those who do not respect the rights and privileges of others and fail to demonstrate a high regard for school property will be subject to dismissal.

"G. I. Bill" The Veterans Readjustment Benefits Act of 1966

All programs being offered by the Center at this time are approved for training under the so-called "Cold War G. I. Bill." Veterans desiring to train under the benefits of this bill must first establish their eligibility with the Veterans Administration. In general, Veterans who served in the Armed Forces since January 31, 1955, and who were discharged under conditions other than dishonorable, qualify for training under the bill. The amount of training permitted is determined by the number of months of service. Certain servicemen on active duty are also eligible for schooling under this bill. Interested servicemen should contact their Education Officer.

Veterans are admitted under the same admission requirements as other students. They pay tuition and attend school under the same regulations as others. The only difference between Veterans and other students is that they are paid monthly by the Veterans Administration, an amount determined by the hours attended and the number of dependents he has.

To be classified as a full-time student, a Veteran must attend 25 hours per week in a technical course and 30 hours per week in a trade program.

Full details on Veterans training programs may be obtained from any Veterans Service Office. The Veterans Service Office for McDowell County is located in the County Court House.

Draft Deferment

Draft deferment forms are mailed to any student's Selective Service Board upon request after he registers for the first quarter. Any student enrolled is deferred under the same regulations as college students. The school is under obligation to notify the board should the student's attendance or quality of work become unsatisfactory.

Counseling Services

A qualified counselor is available to assist students in selecting an appropriate course of study, to provide occupational and educational information and to discuss scholastic or personal problems which may arise.

Vocational Rehabilitation

Vocational Rehabilitation is a program operated through the Division of Vocational Rehabilitation in cooperation with the North Carolina Department of Public Instruction and the Federal Office of the Vocational Rehabilitation Administration. The Division is financed by State and Federal funds. Vocational Rehabilitation offers such services as are necessary to enable a physically or mentally employment-handicapped per-

son to become self-supporting. Financial assistance is available for training at the Marion-McDowell I.E.C. for eligible handicapped persons.

If a prospective student has a physical disability or is limited in his activity because of a disability he should contact the Division of Vocational Rehabilitation office nearest him. The Division Office for Western North Carolina is located in Asheville.

Placement Service

The Center provides a placement service by working with personnel managers in offices and industry in seeking employment. Industries that conduct their own recruitment program will be granted permission to interview students when requested.

Student Lounge

A refreshment lounge equipped with a variety of vending machines is provided for the convenience of students and faculty.

Smoking

Smoking will be confined to designated areas inside and outside the building. Food and drinks may not be carried into a classroom, shop or lab.

REGISTRATION

Registration procedure is to be completed at the designated times prior to the beginning of classes for each quarter. This procedure consists of completing class schedule forms, paying fees, and purchasing textbooks.

Any student who fails to register during the appointed hours will be charged a late registration fee of \$5.00.

SUPPLEMENT

The contact hours shown in the catalog are minimal. It is a policy of this institution to permit students to enroll in additional subjects and laboratory work beyond those shown in the catalog in order to broaden their training.

When in any quarter the total weekly contact hours listed are fewer than twenty-five hours in a technical curriculum and fewer than thirty hours in a vocational trade curriculum, a student may enroll on request and with the approval of the institution for additional instructional hours to make up twenty-five hours per week in a technical curriculum or sufficient hours of attendance to make up thirty hours per week in a vocational trade curriculum.

CURRICULA LISTING FOR PROGRAMS OF STUDY

TECHNICAL DIVISION

Business Administration

VOCATIONAL-TRADE DIVISION

Auto Mechanics

Business Secretarial

Drafting

Electrical Installation and Maintenance (in the planning stage — to be offered September, 1967.)

Practical Nurse Education (in the planning stage.)

OTHER OFFERINGS

Extension Classes

Firemanship Training

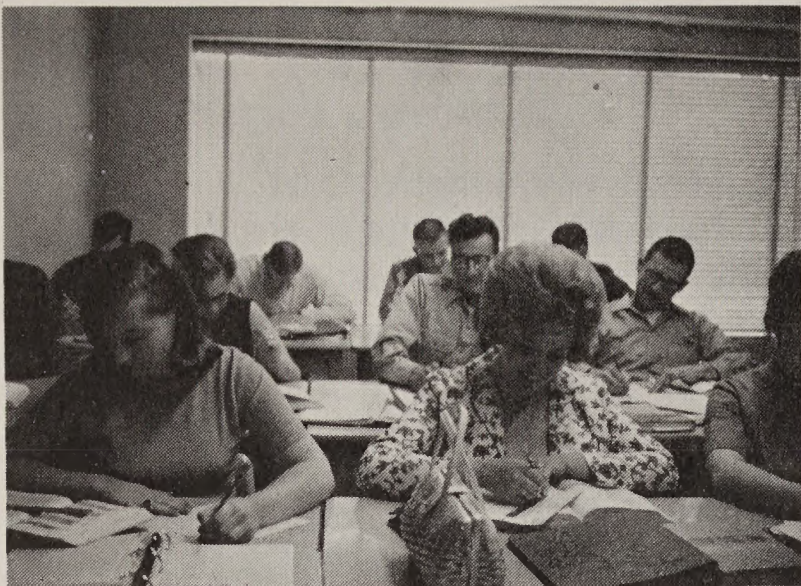
New Industry Training

Supervisory Development Training

Other Short-Term Courses

LEARNING LABORATORY





BUSINESS ADMINISTRATION

In North Carolina the opportunities in business are increasing. With the increasing population and industrial development in this State, business has become more competitive and automated. Better opportunities in business will be filled by students with specialized education beyond the high school level. The Business Administration Curriculum is designed to prepare the student for employment in one of many occupations common to business. Training is aimed at preparing the student in every phase of administrative work that might be encountered in the average business.

A.A.S. Degree Conferred

The specific objectives of the Business Administration Curriculum are to develop the following competencies:

1. Understanding of the principles of organization and management in business operations.
2. Understanding and skill in effective communication for business.
3. Knowledge of human relations as they apply to the successful operations in the rapidly expanding economy.

OCCUPATIONAL OPPORTUNITIES

The graduate of the Business Administration Curriculum may enter a variety of career opportunities from beginning sales person or office clerk to manager trainee. The duties and responsibilities of this graduate vary in different firms. These encompassments might include: making up and filing reports, tabulating and posting data in various books, sending out bills, checking calculations, adjusting complaints, operating various office machines, and assisting manager in supervising. Positions are available in businesses such as advertising; banking; credit; finance; retailing; wholesaling; hotel, tourist, and travel industry; insurance; transportation; and communications.

Course Title	Class	Lab	Credits	Course Title	Class	Lab	Credits
First Quarter				T-BUS 116 Business Law			
T-ENG 101 Grammar	3	0	3		3	0	3
T-MAT 110 Business Mathematics	5	0	5		16	4	18
T-BUS 101 Introduction to Business	5	0	5	Fourth Quarter			
T-ECO 102 Economics	3	0	3	T-ENG 204 Oral Communication	3	0	3
	16	0	16	T-BUS 122 Accounting	5	2	6
Second Quarter				T-BUS 232 Sales Development	3	0	3
T-ENG 102 Composition	3	0	3	T-BUS 239 Marketing	5	0	5
T-BUS 120 Accounting	5	2	6		16	2	17
T-ECO 104 Economics	3	0	3	Fifth Quarter			
T-BUS 115 Business Law	3	0	3	T-EDP 104 Introduction to Data Processing Systems	3	2	4
T-BUS 123 Business Finance	3	0	3	T-BUS 225 Cost Accounting	3	2	4
	17	2	18	T-ENG 206 Business Communication	3	0	3
Third Quarter				T-SSC 201 Social Science	3	0	3
T-ENG 103 Report Writing	3	0	3	T-BUS 235 Business Management	3	0	3
T-BUS 124 Business Finance	3	0	3		15	4	17
T-BUS 110 Office Machines	2	2	2				
T-BUS 121 Accounting	5	2	6				

Course Title	Class	Lab	Credit	Course Title	Class	Lab	Credit
Sixth Quarter				Seventh Quarter			
T-BUS 243 Advertising	3	2	4	T-PSY 206 Applied Psychology	3	0	3
T-SSC 202 Social Science	3	0	3	T-BUS 247 Business Insurance	5	0	5
T-BUS 229 Taxes	3	2	4	T-BUS 233 Personnel Management	3	0	3
T-BUS 272 Principles of Supervision	3	0	3	T-BUS 219 Credit Procedures and Problems	3	0	3
T-BUS 271 Office Management	3	0	3	T-BUS 245 Retailing-Wholesaling	5	0	5
	<hr/>	<hr/>	<hr/>		<hr/>	<hr/>	<hr/>
	15	4	17		19	0	19

Business Administration

Course Descriptions

T-BUS 101 INTRODUCTION TO BUSINESS

A survey of the business world with particular attention devoted to the structure of the various types of business organization, methods of financing, internal organization, and management. Prerequisite: None.

T-BUS 123 BUSINESS FINANCE

Financing of business units, as individuals, partnerships, corporations, and trusts. A detailed study is made of short-term, long-term, and consumer financing.

T-BUS 124 BUSINESS FINANCE

Financing, federal, state, and local government and the ensuing effects upon the economy. Factors affecting supply of funds, monetary and credit policies. Prerequisite: T-BUS 123.

T-BUS 232 SALES DEVELOPMENT

A study of retail, wholesale and specialty selling. Emphasis is placed upon mastering and applying the fundamentals of selling. Preparation for and execution of sales demonstrations required. Prerequisite: None.

T-BUS 239 MARKETING

A general survey of the field of marketing, with a detailed study of the functions, policies, and institutions involved in the marketing process. Prerequisite: None.

T-BUS 235 BUSINESS MANAGEMENT

Principles of business management including overview of major functions of management, such as planning, staffing, controlling, directing, and financing. Clarification of the decision-making function versus the operating function. Role of management in business — qualifications and requirements. Prerequisite: None.

T-BUS 243 ADVERTISING

The role of advertising in a free economy and its place in the media of mass communications. A study of advertising appeals; product and market research; selection of media; means of testing effectiveness of advertising. Theory and practice of writing advertising copy for various media. Prerequisite: None.

T-BUS 229 TAXES

Application of federal and state taxes to various businesses and business conditions. A study of the following taxes: income, payroll, intangible, capital gain, sales and use, excise, and inheritance. Prerequisite: T-BUS 121.

T-BUS 272 PRINCIPLES OF SUPERVISION

Introduces the basic responsibilities and duties of the supervisor and his relationship to superiors, subordinates, and associates. Emphasis on securing an effective work force and the role of the supervisor. Methods of supervision are stressed. Prerequisite: None.

T-BUS 271 OFFICE MANAGEMENT

Presents the fundamental principles of office management. Emphasis on the role of office management including its functions, office automation, planning, controlling, organizing and actuating office problems. Prerequisite: None.

T-BUS 247 BUSINESS INSURANCE

A presentation of the basic principles of risk insurance and their application. A survey of the various types of insurance is included. Prerequisite: None.

T-BUS 233 PERSONNEL MANAGEMENT

Principles of organization and management of personnel, procurement, placement, training, performance checking, supervision, remuneration, labor relations, fringe benefits and security. Prerequisite: None.

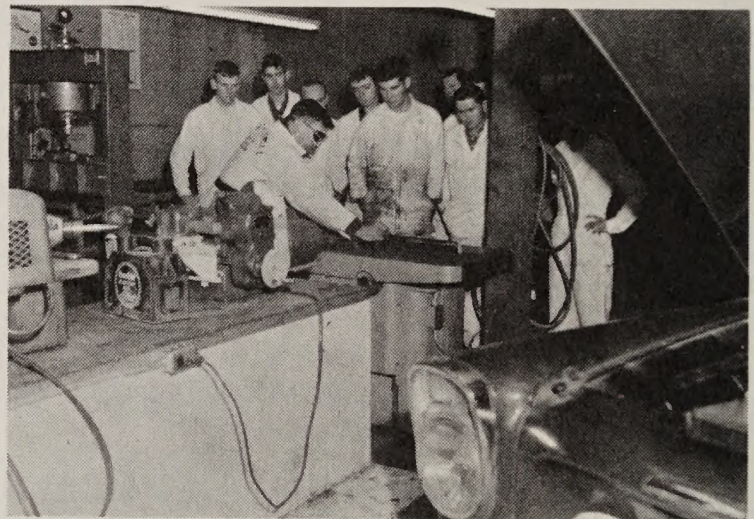
T-BUS 219 CREDIT PROCEDURES AND PROBLEMS

Principles and practices in the extension of credit; collection procedures; laws pertaining to credit extension and collection are included. Prerequisite: T-BUS 120.

T-BUS 245 RETAILING

A study of the role of retailing in the economy including development of present retail structure, functions performed, principles governing effective operation and managerial problems resulting from current economic and social trends. Prerequisite: None.

AUTO MECHANICS



This is a one-year program providing a thorough training in the theoretical as well as manual skills in servicing, testing and diagnosing. All phases of the electrical system, the power plant, braking system, the power train will be studied.

The courses are arranged in a sequence that gives the student the required technological and special courses as they are needed to coordinate his laboratory experiences.

Emphasis is placed on the mechanical parts and operation of the various automobile units. Trouble shooting and servicing of the live project is also stressed.

OCCUPATIONAL OPPORTUNITIES

Auto Mechanics, Truck and Bus Mechanic, Shop Foreman, Maintenance Supervisor, Dealer, Service Manager, Sales Technician, Factory Representative, and Experimental Lab Work are among those occupational opportunities awaiting graduates of the Automotive Mechanic Curriculum.

Course	Class	Lab	Shop Practice	Credit
First Quarter				
AUT 1121 Automotive Theory and Practice	3	0	12	7
MAT 1121 Mathematics	5	0	0	5
ENG 1101 Reading Improvement	2	0	0	2
PHY 1104 Physics	3	2	0	4
	<hr/> 13	<hr/> 2	<hr/> 12	<hr/> 18
Second Quarter				
AUT 1122 Automotive Theory and Practice	3	0	12	7
PHY 1105 Applied Physics	3	2	0	4
ENG 1102 Communication Skills	2	0	0	2
DFT 1121 Blueprint Reading	3	0	0	3
	<hr/> 11	<hr/> 2	<hr/> 12	<hr/> 16
Third Quarter				
AUT 1123 Automotive Theory and Practice	3	0	12	7
AUT 1101 Small Engine Repair	3	0	0	3
SOC 1101 Human Relations	2	0	0	2
WLD 1112 Welding	0	0	3	1
PHY 1106 Applied Physics	3	2	0	4
	<hr/> 11	<hr/> 2	<hr/> 15	<hr/> 17
Fourth Quarter				
AUT 1124 Automotive Theory and Practice	3	0	9	6
SOC 1103 Management Procedures	3	0	0	3
AUT 1125 Automotive Testing and Service	3	0	9	6
	<hr/> 9	<hr/> 0	<hr/> 18	<hr/> 15

Automotive Mechanics

COURSE DESCRIPTION

AUT 1121 AUTOMOTIVE THEORY AND PRACTICE — ENGINES

Designed to give the student a thorough knowledge in the use, maintenance, and storage of the various tools and measuring devices needed in automotive work. A study of the construction and operation of components of automotive engines. The student will learn testing of engine performance; servicing and maintenance for pistons, valves, cams and camshafts, fuel and exhaust systems, cooling systems; proper lubrication; and methods of testing, diagnosing and repairing of failure and defects in the various engine mechanisms. Prerequisite: None.

AUT 1122 AUTOMOTIVE THEORY AND PRACTICE — ELECTRICAL AND FUEL SYSTEMS

A thorough study of the electrical and fuel systems of the automobile, the electrical system and its components; battery cranking mechanism, generator, ignition, accessories, and wiring. Intensive training in the components and operation of various types of automotive fuel systems. Characteristics of fuels and types of fuel systems for which they are best adapted. The special tools, circuits, and testing equipment for the fuel and electrical system are studied. Prerequisite: AUT 1121.

AUT 1123 AUTOMOTIVE THEORY AND PRACTICE — CHASSIS AND SUSPENSIONS

Principals and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of the suspension,

steering, and braking systems. Units to be studied will be shock absorbers, springs, steering systems, steering linkage, front end adjustments, types and servicing of brakes, etc. Prerequisite: AUT 1121, 1122.

AUT 1101 — SMALL ENGINE REPAIR

The purpose of this course is to teach the why and how of gasoline engine operations. A careful study of the theory and operating principles, plus actual practice in servicing and repairing engines will enable anyone to minimize engine troubles and to correct those troubles that do exist. The course will in general deal with small engines. Multicylinder engines will be included.

AUT 1124 AUTOMOTIVE THEORY AND PRACTICE — POWER TRAIN

Detailed analysis of the components of the automotive power train system, with the emphasis on identification of troubles which develop in these components and the correct servicing and repair. Included are: types of clutches, clutch operation, inspection and servicing clutches; functions of the transmission gears, principles and operation of the various transmission and torque converter types, service and repair; operation, diagnosis and servicing for drive shaft assemblies, rear axles, and differentials. Prerequisites: Phy 1105; 1106; AUT 1121, 1122, 1123.

AUT 1125 AUTOMOTIVE TESTING AND SERVICE

Emphasis is on the shop procedure necessary in determining the nature of troubles developed in the various component systems of the automobile. Extensive use of testing equipment will be made on the actual problem situations. A close simulation to the actual automotive shop will be maintained and every effort will be made to give the student a full range of testing and servicing experience. Prerequisites: AUT 1121, 1122, 1123, 1124.

BUSINESS SECRETARIAL



The demand for better qualified office personnel in our ever-expanding business, medical, legal, and industrial fields is becoming more acute. The purpose of this curriculum is to outline a program that will provide training in the accepted procedures required in each of these fields and to enable persons to become proficient soon after accepting employment.

This curriculum is designed to offer students the necessary secretarial and clerical skills in typing, business machine operation, dictation, transcription, accounting, business math, and personality development for employment in all fields of business.

Graduates of this program may be employed as a stenographer, a secretary, a typist, an accounting clerk, a filing clerk, a receptionist, or a general clerical worker. In addition to taking dictation and transcribing, the secretary may be given additional responsibilities such as meeting office callers, screening telephone calls, and working under simulated business conditions while enrolled in this program. Positions may be found in such businesses as insurance companies, hospitals, doctors' offices, law offices, and industrial firms.

COURSE	CLASS	LAB	CREDIT
First Quarter			
ENG 101 Grammar	3	0	3
BUS 110 Typewriting	5	5	6
BUS 109 Shorthand	5	5	6
MAT 112 Business Mathematics	5	0	5
	<hr/> 18	<hr/> 10	<hr/> 20

Second Quarter			
ENG 102 Composition	3	0	3
BUS 111 Typewriting	5	0	3
BUS 114 Shorthand	5	0	3
BUS 117 Office Machines	2	2	3
BUS 120 Accounting	5	2	6
	<hr/> 20	<hr/> 4	<hr/> 18

COURSE	CLASS	LAB	CREDIT
Third Quarter			
ENG 103 Report Writing	3	0	3
BUS 112 Typewriting	5	0	3
BUS 115 Shorthand	5	0	3
BUS 118 Office Machines	2	2	3
BUS 121 Accounting	5	2	6
	<hr/> 20	<hr/> 4	<hr/> 18

Fourth Quarter			
BUS 113 Typewriting	5	0	3
BUS 116 Shorthand	5	0	3
BUS 122 Filing	2	2	3
BUS 123 Correspondence	5	0	4
BUS 124 Office Procedures	5	0	4
	<hr/> 22	<hr/> 2	<hr/> 17

BUSINESS SECRETARIAL

Course Descriptions

BUS 110 TYPEWRITING

Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. Prerequisite: None.

BUS 109 SHORTHAND

A beginning course in the theory and practice of reading and writing shorthand. Emphasis on phonetics, penmanship, word families, brief forms, and phrases. Prerequisite: None.

BUS 111 TYPEWRITING

Instruction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscript, correspondence, and business forms. Prerequisite: BUS 110 or the equivalent. Speed requirement, 30 words per minute for five minutes.

BUS 113 ADVANCED TYPEWRITING

Emphasis is placed on the development of individual production rates. The student learns the techniques needed in planning and in typing projects. These projects include review of letter forms, methods

of duplication, statistical tabulation, and the typing of reports, manuscripts, and legal documents. Prerequisite: Bus 112. Speed requirement 50 words per minute for five minutes.

BUS 116 DICTATION AND TRANSCRIPTION

Develops the skill of taking dictation and transcribing at the typewriter. Includes a review of theory and the dictation of familiar and unfamiliar material at varying rates of speed. Minimum dictation rate of 100 words per minute required for five minutes on new material. Prerequisite: BUS 115.

BUS 122 FILING

Fundamentals of indexing and filing, combining theory and practice by the use of miniature letters, filing boxes and guides. Alphabetic, Geographic, Numeric, Subject, Soundex, and Dewey Decimal filing are included. Prerequisite: None.

BUS 123 BUSINESS CORRESPONDENCE

Develops skills in techniques of writing business communications. Emphasis is placed on writing action-getting letters. Business reports; summaries of business conferences; letters involving credit, collections, adjustments, complaints, orders, acknowledgments, remittances, and inquiries are included. Prerequisite: ENG 102.

BUS 114 SHORTHAND

Continued study of theory with greater emphasis on dictation and elementary transcription. Prerequisite: BUS 109.

BUS 117 OFFICE MACHINES

A general survey of the business and office machines. Students will receive training in techniques, processes, operation and application of the ten-key adding machines, full keyboard adding machines, and calculator. Prerequisite: None.

BUS 112 TYPEWRITING

Emphasis on production typing problems and speed building. Attention to the development of the student's ability to function as an expert typist, producing mailable copies. The production units are tabulation, manuscript, correspondence, and business forms. Prerequisite: BUS 111 or the equivalent. Speed requirement, 40 words per minute for five minutes.

BUS 115 SHORTHAND

Theory and speed building. Introduction to office style dictation. Emphasis on development of speed in dictation and accuracy in transcription. Prerequisite: BUS 114.

BUS 118 OFFICE MACHINES

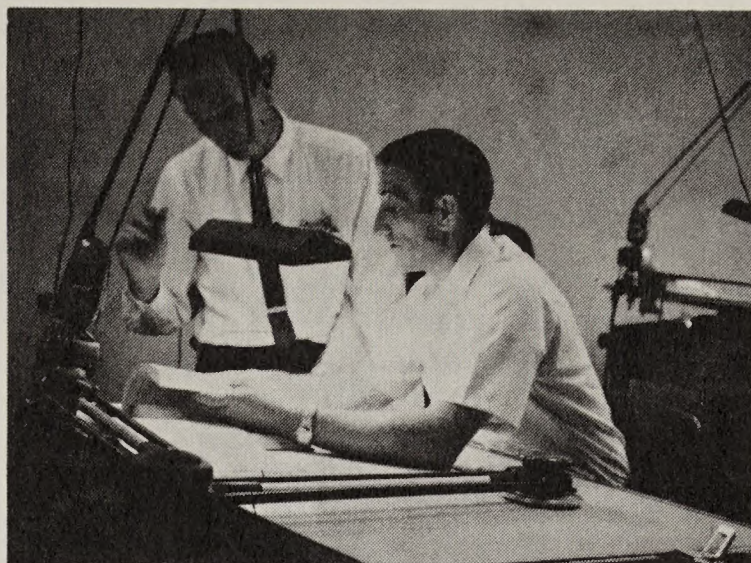
Instructions in the operation of the bookkeeping-accounting machines, duplicating equipment, and the dictating and transcribing machines. Prerequisite: BUS 117.

BUS 124 SECRETARIAL OFFICE PROCEDURES

Designated to acquaint the student with the responsibilities encountered by the secretary during the work day. These include the following: receptionist duties, handling the mail, telephone techniques, travel information, telegrams, office records, purchasing of supplies, office organizations, and insurance claims. Prerequisite: None.

DRAFTING

MECHANICAL



INTRODUCTION

PURPOSE OF CURRICULUM

This curriculum is designed to prepare students to enter the field of mechanical drafting. The first two quarters contain courses basic to all fields of drafting. The third and fourth quarters contain specialization and related courses that prepare one to enter mechanical drafting occupations.

Each course is prepared to enable an individual to advance rapidly in drafting proficiency upon entering the field of work. Courses are arranged in sequence to develop skills and proficiency in mathematics and science. The draftsman associates with many levels of personnel — administrative, architects, engineers, skilled workmen—and must be able to communicate effectively with them. Courses to develop knowledge and skills in communication, human relations, economics and industrial organization are provided to assist the student in developing understandings and confidence in his relations with other persons.

JOB DESCRIPTION

Draftsman prepares clear, complete, and accurate working plans and detail drawings, from rough or detailed sketches or notes for engineering or manufacturing purposes, according to the specified dimensions: makes final sketch of the proposed drawing, checking dimension of parts, materials to be used, the relation of one part to another, and the relation of the various parts to the whole structure. Makes any adjustments or changes necessary or desired. Inks in lines and letters on pencil drawings as required. Exercises manual skill in the manipulation of triangle, T-square, and other drafting tools. Lays tracing paper on drawing and traces drawing in pencil or ink. Makes charts for representation of statistical data. Makes finished designs from sketches. Utilizes knowledge of various machines, engineering practices, mathematics, building materials, and other physical sciences to complete the drawings.

Mechanical draftsman performs the general duties of a draftsman and also specializes in making rough drafting sketches of proposed mechanical devices, and then drawing necessary details. Prepares accurate scale drawings of parts or machines from specifications. Performs the general duties of a draftsman and also specializes in organizing and drawing of working drawings from final preliminary sketches from the designer, mechanical equipment and structural drawings included.

First Quarter Course Title

	Course	Hours	Per Week	Qtr.
	Class	Lab	Shop Practice	Hours Credit
DFT 1121 Drafting	3	12	0	7
MAT 1103 Geometry	3	0	0	3
ENG 1101 Reading Improvement	2	0	0	4
PHY 1101 Applied Science	3	2	0	4
	<hr/> 11	<hr/> 14	<hr/> 0	<hr/> 18

Second Quarter				
DFT 1122 Drafting	3	6	0	6
DFT 1125 Descriptive Geometry	2	3	0	3
MAT 1102 Algebra	5	0	0	5
ENG 1102 Communication Skills	3	0	0	3
PHY 1102 Applied Science	3	2	0	4
	<hr/> 16	<hr/> 11	<hr/> 0	<hr/> 21
Third Quarter				
DFT 1131 Mechanical Drafting	3	12	0	9
MAT 1104 Trigonometry	3	0	0	3
PSY 1101 Human Relations	2	0	0	2
MECH 1113 Shop Processes	2	3	0	3
DFT 1141 Building Trade Drafting	2	3	0	3
	<hr/> 12	<hr/> 18	<hr/> 0	<hr/> 20
Fourth Quarter				
DFT 1142 Building Trade Drafting	3	12	0	9
DFT 1145 Specifications and Contents	3	0	0	3
CIV 1101 Surveying	2	3	0	3
BUS 1103 Small Business Operations	3	0	0	3
	<hr/> 11	<hr/> 15	<hr/> 0	<hr/> 18

COURSE DESCRIPTION

DFT 1121 DRAFTING

An introduction to drafting and the study of drafting practices. Instruction is given in the selection, use and care of instruments, single-stroke lettering, applied geometry, freehand sketching consisting of orthographic and pictorial drawings. Orthographic projection, reading and instrument drawings of principal views, single auxiliary views (primary), and double (oblique) auxiliary views will be emphasized. Dimensioning and note practices will be studied with reference to the American Standards Association practices. Methods of reproducing drawings will be included at the appropriate time. Prerequisite: None.

MAT 1103 GEOMETRY

Fundamental properties and definitions; plane and solid geometric figures, selected general theorems, geometric construction of lines, angles and plane figures. Dihedral angles, areas of plane figures, volumes of solids. Geometric principles are applied to shop operations. Prerequisite: None.

ENG 1101 READING IMPROVEMENT

Designed to improve the student's ability to read rapidly and accurately. Special machines are used for class drill to broaden the span of recognition, to increase eye coordination and word group recognition and to train for comprehension in larger units. Prerequisite: None.

PHY 1101 APPLIED SCIENCE

An introduction to physical principles and their application to industry. Topics in this course include measurement; properties of solids, liquids, and gases; basic electrical principles. Prerequisite: None.

DFT 1122 DRAFTING

The trainee will study simple and successive revolutions and their applications to practical problems. Sections and conventions will be studied and both detail and assembly sections will be drawn. Intersections and developments will be studied by relating the drawing to the sheet metal trades. Models of the assigned drawings will be made from construction paper, cardboard, or similar materials as a proof of the solution to the problems drawn.

Methods of drawing and projecting axonometric, oblique, and perspective drawings will be studied with emphasis on the practical applications of pictorial drawings. Various methods of shading will be intro-

duced and dimensioning and sectioning of oblique and axonometric pictorials will be done. Prerequisite: DFT 1121.

DFT 1125 DESCRIPTIVE GEOMETRY

Graphical analysis of space problems. The problems deal with practical design elements involving points, lines, planes, connectors, and a combination of these. Included are problems dealing with solid geometry theorems. Where applicable, each graphical solution shall be accomplished by the analytical solution. Prerequisite: DFT 1121.

MAT 1102 ALGEBRA

Basic concepts and operations of algebra: historical background of our base-10 number system; algebraic operations: addition, subtraction, multiplication and division; fractions, letter representation, grouping, factoring, ratios and proportions, variation; graphical and algebraic solution of first degree equations; solution of simultaneous equations by: addition and subtraction, substitution, graphing; exponents, logarithms, tables and interpolation. Prerequisite: None.

ENG 1102 COMMUNICATION SKILLS

Designed to promote effective communication through correct language usage in speaking and writing. Prerequisite: ENG 1101.

PHY 1102 APPLIED SCIENCE

The second in a series of two courses of applied physical principles. Topics introduced in this course are heat and thermometry, and principles of force, motion, work, energy, and power. Prerequisite: PHY 1101.

DFT 1131 MECHANICAL DRAFTING

An introduction to mechanical drafting beginning with problems concerning precision and limit dimensioning. Methods of fastening materials, and fasteners, keys, rivets, springs, and welding. Symbols will be studied and drawings will be made involving these items. Principles of design will be introduced with the study of basic mechanisms of motion transfer; gears, cams, power trains, pulleys, belting and methods of specifying and calculating dimensions will be studied. Drawings will be made involving these mechanisms. Prerequisite: DFT 1122.

MAT 1104 TRIGONOMETRY

Trigonometric ratios; solving problems with right triangles, using tables, and interpolating; solution of oblique triangles using law of sines and law of cosines; graphs of the trigonometric functions; inverse functions, trigonometric equations. All topics are applied to practical problems. Prerequisites: MAT 1102, MAT 1103.

PSY 1101 HUMAN RELATIONS

A study of basic principles of human behavior. The problems of the individual are studied in relation to society, group membership, and relationships within the work situation. Prerequisite: None.

MEC 1113 SHOP PROCESSES (Materials and Processes)

A study of practices and processes used in the shaping, forming, and fabrication of wood, metal, plastics, and ceramics. The properties of these materials and their utilization in the various industries. A study of the various industries. A study of the various machines used in the forming of these materials and their capabilities. Practices used in fastening and forming these materials. Demonstrations of methods, machines, and processes.

DEFT 1141 BUILDING TRADES DRAFTING

An introduction to architectural drafting. Further development of techniques in lettering, dimensioning, freehand sketching and instrument drawing. Drawing of construction details, using appropriate material symbols and conventions. Working drawings, including plans, elevations,

sections, scale details and full-size details will be prepared from preliminary sketches. Prerequisite: DFT 1112.

DFT 1142 BUILDING TRADES DRAFTING

Individual and group participation in the preparation of complete working drawings for a complex architectural structure. Study of drafting room organization and relationships of personnel within the architectural office. Prerequisites: DFT 1141, DFT 1143, DFT 1144.

DFT 1145 SPECIFICATIONS AND CONTRACTS

The purposes and writings of specifications will be studied along with their legal and practical application to working drawings. Contract documents will be analyzed and studied for the purpose of client-architect-contractor responsibilities, duties and mutual protection. Prerequisites:

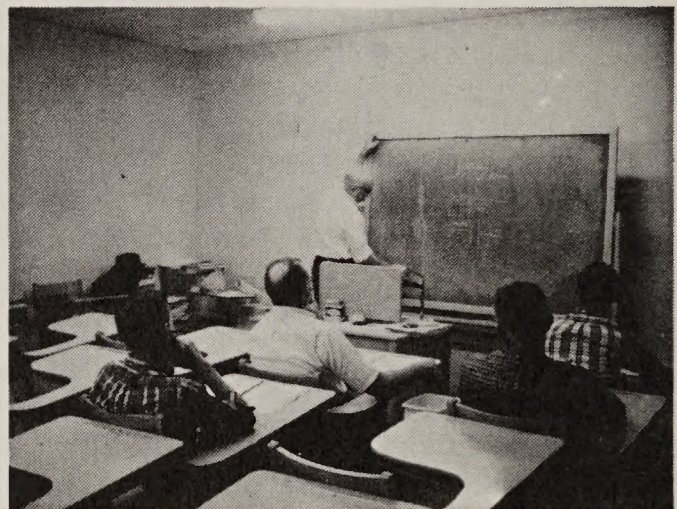
DFT 1141, DFT 1143, DFT 1144.
CIV 1101 SURVEYING

Basic instrumentation and topography will be studied together with field trips and drafting room application of site surveying. Prerequisite: MAT 1104.

BUS 1103 SMALL BUSINESS OPERATIONS

An introduction to the small business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventory, layout of equipment and offices, methods of improving business, and employer-employee relations. Prerequisite: None.

Electrical Installation and Maintenance



The graduate of the electrical trades program will be qualified to enter an electrical trade as an on-the-job trainee or apprentice, where he will assist in the planning, layout, installation, check out, and maintenance of systems in residential, commercial, or industrial plants. He will have an understanding of the fundamentals of the National Electrical Code regulations as related to wiring installations, electrical circuits, and the measurements of voltage, current, power, and power factor of single and polyphase alternating circuits. He will have a basic knowledge of motor and motor control systems; industrial electronic control systems; business procedures, organization, and practices; communicative skills; and the necessary background to be able to advance through experience and additional training through up-grading courses offered in the Center.

First Quarter

Course	Class	Lab	Credit
ELC 1112 Direct & Alternating Current	5	12	9
ENG 1101 Reading Imp.	2	0	2
MAT 1115 Elec. Math.	5	0	5
PHY 1101 Applied Science	3	2	4
	<hr/> 15	<hr/> 14	<hr/> 20

Second Quarter			
ELC 1113 Alternating Current and Direct Current Machines and Controls	5	12	9
DFT 1110 Blueprint Reading: Building Trades	0	3	1
ENG 1102 Communication Skills	3	0	3
PHY 1102 App. Science	3	2	4
	<hr/> 11	<hr/> 17	<hr/> 17
Third Quarter			
ELC 1124 Residential Wiring	5	9	8
ELN 1118 Industrial Electronics	3	6	5
PSY 1101 Human Relations	3	0	3
DFT 1113 Blueprint Reading: Electrical	0	3	1
	<hr/> 11	<hr/> 18	<hr/> 17
Fourth Quarter			
ELC 1125 Commercial and Industrial Wiring	5	12	9
ELN 1119 Industrial Electronics	3	6	5
BUS 1103 Small Bus. Operations	3	0	3
	<hr/> 11	<hr/> 18	<hr/> 17

COURSE DESCRIPTION BY QUARTERS

FIRST QUARTER

ELC 1112 Direct and Alternating Current	5	12	9
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A study of the electrical structure of matter and electron theory, the relationship between voltage, current, and resistance in series, parallel, and series-parallel circuits. An analysis of direct current circuits by Ohm's Law and Kirchhoff's Law. A study of the sources of direct current voltage potentials. Fundamental concepts of alternating current flow, reactance, impedance, phase angle, power, and resonance. Analysis of alternating current circuits. Prerequisite: None.

	Class	Lab	Credit
ENG 1101 Reading Improvement	2	0	2

Designed to improve the student's ability to read rapidly and accurately. Special machines are used for class drill to broaden the span of recognition, to increase eye coordination and work group recognition and to train for comprehension in larger units. Prerequisite: None.

MAT 1115 Electrical Math	5	0	5
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A study of fundamental concepts of algebra; basic operations of addition, subtraction, multiplication, and division; solution of first order equations, use of letters and signs; grouping, factoring, exponents, ratios, and proportions; solution of equations, algebraically and graphically; a study of logarithms and use of tables; and introduction to trigonometric functions and their application to right angles; and a study of vectors for use in alternating current. Prerequisite: None.

PHY 1101 Applied Science	3	2	4
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An introduction to physical principles and their application in industry. Topics in this course include measurement; properties of solids, liquids, and gases; basic electrical principles. Prerequisite: None.

SECOND QUARTER

ELC 1113 ALTERNATING CURRENT AND DIRECT CURRENT MACHINES AND CONTROLS

5	12	9
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Provides fundamental concepts in single and polyphase alternating current circuits, voltages, currents, power measurements, transformers,

and motors. Instruction in the use of electrical test instruments in circuit analysis. The basic concepts of AC and DC machines and simple system controls. An introduction to the type control used in small appliances such as: thermostats, times, or sequencing switches. Prerequisites: ELC 1112, MAT 1115.

DFT 1110 Blueprint Reading: Building Trades	Class	Lab	Credit
	0	3	1

Principles of interpreting blueprints and trade specifications common to the building trades. Development of proficiency in making three view and pictorial sketches. Prerequisite: None.

ENG 1102 Communication Skills	3	0	3
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Designed to promote effective communication through correct Language usage in speaking and writing. Prerequisite: ENG 1101.

PHY 1102 Applied Science	3	2	4
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The second in a series of two courses of applied physical principles. Topics introduced in this course are heat and thermonetry, and principles of force, motion, work, energy, and power. Prerequisite: PHY 1101.

THIRD QUARTER

ELC 1124 Residential Wiring	5	9	8
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Provides instruction and application in the fundamentals of blueprint reading, planning, layout, and installation of wiring in residential applications such as: services, switchboards, lighting, fusing, wire sizes, branch circuits, conduits, National Electrical Code regulations in actual building moch-ups. Prerequisites: ELC 1113, DFT 1110.

ELN 1118 Industrial Electronics	3	6	5
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Basic theory, operating characteristics, and application of vacuum tubes such as: diodes, triodes, tetrodes, pentodes, and gaseous control tubes. An introduction to amplifiers using triodes, power supplies using diodes, and other basic applications. Prerequisite: ELC 1113.

DFT 1113 Blueprint Reading: Electrical	0	3	1
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Interpretation of schematics, diagrams and blueprints applicable to electrical installations with emphasis on electrical plans for domestic and commercial buildings. Sketching schematics, diagrams, and electrical plans for electrical installations using appropriate symbols and notes according to the applicable codes will be a part of this course. Prerequisite: DFT 1110.

FOURTH QUARTER

ELC 1125 Commercial and Industrial Wiring	5	12	9
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Layout, planning, and installation of wiring systems in commercial and industrial complexes, with emphasis upon blueprint reading and symbols, the related National Electrical Codes, and the application of the fundamentals to practical experience in wiring, conduit preparation, and installation of simple systems. Prerequisites: ELN 1118, ELC 1124.

ELN 1119 Industrial Electronics	3	6	5
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Basic industrial Electronic systems such as: motor controls, alarm systems, heating systems and controls, magnetic amplifier controls, welding control systems using thyatron tubes, and other basic types of systems commonly found in most industries. Prerequisite: ELN 118.

BUS 1103 Small Business Operations	3	0	3
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An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business, and employer-employee relations. Prerequisite: None.

PRACTICAL NURSE EDUCATION

INTRODUCTION

The accelerated growth of population in North Carolina and rapid advancement in medical technology demand an increased number of well-trained personnel for health services. Realizing this need, the State Department of Community Colleges, in conjunction with local hospitals, administers programs of practical nurse education in local school systems, community colleges, technical institutes and in industrial education centers throughout the state.

STATE DIPLOMA AWARDED

The aim of the Practical Nurse Education Program is to make available to qualified persons the opportunity to prepare for participation in care of patients of all ages, in various states of dependency, and with a variety of illness conditions.

Students are selected on the basis of demonstrated aptitude for nursing as determined by pre-entrance tests, interviews with faculty members, high school record, character references, and reports of medical and dental examination.

Throughout the one-year program the student is expected to grow continuously in acquisition of knowledge and understandings related to nursing, the biological sciences, the social sciences and in skills related to nursing practice, communications, interpersonal relations, and use of good judgment. Evaluation of student performance consists of tests on all phases of course content, evaluation of clinical performance, and evaluation of adjustment to the responsibilities of nursing. A passing score is required on all graded work, plus demonstrated progress in application of nursing skills to actual patient care.

Graduates of accredited programs of practical nurse education are eligible to take the licensing examination given by the North Carolina Board of Nursing. This examination is given twice each year, usually in April and September. A passing score entitles the individual to receive a license and to use a legal title "Licensed Practical Nurse." The license must be renewed annually. The Licensed Practical Nurse can apply for license in other states on the basis of a satisfactory examination score, without repeating the examination.

OCCUPATIONAL OPPORTUNITIES

The LPN is prepared to function in a variety of situations: hospitals of all types, nursing homes, clinics, doctors' and dentists' offices and, in some localities, public health facilities. In all situations the LPN functions under supervision of a registered nurse and/or licensed physician. This supervision may be minimal in situations where the patient's condition is stable and not complex; or it may consist of continuous direction in situations requiring the knowledge and skills of the registered nurse or physician. In the latter situation, the LPN may function in an assisting role in order to avoid assuming responsibility beyond that for which the one-year program can prepare the individual.

Job requirements for the Licensed Practical Nurse include suitable personal characteristics, ability to adapt knowledge and understandings of nursing principles to a variety of situations, technical skills for performance of bedside nursing, appreciation for differences of people and for the worth of every individual, a desire to serve and help others, and readiness to conform to the requirements of nursing ethics and hospital policies.

	Class	Lab	Practice	Qtr. Hrs. Credit
First Quarter				
Practical Nursing I	18	2	3	20
Second Quarter				
Practical Nursing II	12	2	21	20
Third Quarter				
Practical Nursing III	10	2	24	19
Fourth Quarter				
Practical Nursing IV	10	2	24	19
Totals				<hr/> 78

Practical Nurse Education

PRACTICAL NURSING I

COURSE DESCRIPTION

COURSE MATERIAL:

- Nursing — History — Introduction to patient care
- Health — Personal, physical and mental — Family — Community
- Basic Science — Body structure and function — Bacteriology — Basic nutrition
- Vocational Adjustments — Introduction to ethics and legal aspects of nursing
- Communications and Human Relations

Classroom activities are planned to assist students in development of knowledge, understanding, appreciations and attitudes basic to effective nursing of patients of all ages and backgrounds with nursing needs arising both from the individuality of the patient and from inability for self-care as a result of a health deviation. The student is encouraged to develop beginning skills in analysis of patient needs, both through classroom study of hypothetical patient situations and through planned patient experiences in the clinical environment. Beginning skills in nursing methods are developed through planned laboratory experiences, followed by related practice in actual patient care.

Clinical activities provide introduction to actual patient care through selected clinical assignments requiring application of current classroom and laboratory learnings.

PREREQUISITE: Admission requirements.

PRACTICAL NURSING II

COURSE MATERIAL:

- Medical-Surgical Nursing — Patients care — Therapeutic Methods, including administration of oral medication.
- Introduction to Maternity Nursing
- Introduction to Nursing the Sick Child
- Communications and Human Relations

Classroom activities center around analysis of nursing needs as viewed in perspective with the needs arising from the individuality of the patient and from the illness condition. Related information is presented as it is relevant to student's understanding of and ability to meet nursing needs of patients.

Clinical activities provide selected experiences in patient care in order for the student to develop skill in applying classroom learnings to a variety of patient situations.

PREREQUISITE: Practical Nursing I.

PRACTICAL NURSING III

COURSE MATERIAL:

Common Medical-Surgical Conditions

Care of the Subacutely Ill Child

Care of Maternity Patient and Newborn Infant With Complications

Classroom activities center around analysis of nursing needs arising from the specific illness condition and the medical plan.

Clinical activities consist of guided experiences in nursing patients with conditions which illustrate classroom learnings.

PREREQUISITE: Practical Nursing II.

PRACTICAL NURSING IV

COURSE MATERIAL:

Needs of the Seriously Ill Patient

Needs of Patients in Immediate Post-Operative Period

Needs of Labor Patient

Needs of the Seriously Ill Child

Assuming the Role of Graduate Practical Nurse

Classroom activities center around the needs of seriously ill patients of all ages, of labor patients, and of patients immediately following surgery.

Clinical activities consist of guided experiences in the care of seriously ill patients, labor patients, and surgery patients, and is planned to parallel classroom learnings whenever possible.

PREREQUISITE: Practical Nursing III.

RELATED COURSES

COURSE DESCRIPTIONS

T-ENG 101 GRAMMAR

Designated to aid the student in the improvement of self-expression in grammar. The approach is functional with emphasis on grammar, diction, sentence structure, punctuation, and spelling. Intended to stimulate students in applying the basic principles of English grammar in their day-to-day situations in industry and social life. Prerequisite: None.

T-ENG 102 COMPOSITION

Designated to aid the student in the improvement of self-expression in business and technical composition. Emphasis is on the sentence, paragraph and whole composition. Prerequisite: T-ENG 101.

T-ENG 103 REPORT WRITING

The fundamentals of English are utilized as a background for the organization and techniques of modern report writing. Exercises in developing typical reports, using writing techniques and graphic devices are completed by the students. Practical application in the preparation for a full-length report is required of each student at the end of the term. This report must have to do with something in his chosen curriculum. Prerequisite: T-ENG 102.

T-ENG 204 ORAL COMMUNICATION

A study of basic concepts and principles of oral communications to enable the student to communicate with others. Emphasis is placed on the speaker's attitude, improving diction, voice, and the application of particular techniques of theory to correct speaking habits and to produce effective oral presentation. Particular attention given to conducting meetings, conferences, and interviews. Prerequisite: T-ENG 101.

T-ENG 206 BUSINESS COMMUNICATION

Develops skills in techniques in writing business communications. Emphasis is placed on writing action—getting sales letters and prospectuses. Business reports, summaries of business conferences, letters involving credit, collections, adjustments, complaints, orders, acknowledgments, remittances, and inquiry. Prerequisite: T-ENG 102.

T-ECO 102 ECONOMICS

The fundamental principles of economics including the institutions and practices by which people gain a livelihood. Included is a study of the laws of supply and demand and the principles bearing upon production, exchange, distribution, and consumption both in relation to the individual enterprise and to society at large. Prerequisite: None.

T-ECO 104 ECONOMICS

Greater depth in principles of economics, including a penetration into the composition and pricing of national output, distribution of income, international trade and finance, and current economic problems. Prerequisite: T-ECO 102.

T-SSC 201 SOCIAL SCIENCE

An integrated course in the social sciences, drawing from the fields of anthropology, psychology, history, and sociology. Prerequisite: None.

T-SSC 202 SOCIAL SCIENCE

A further study of social sciences with emphasis on economics, political science, and social problems as they relate to the individual. Prerequisite: T-SSC 201.

T-PSY 206 APPLIED PSYCHOLOGY

A study of the principles of psychology that will be of assistance in the understanding of inter-personal relations on the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are: employee selection, supervision, job satisfaction, and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community. Prerequisite: None.

T-BUS 110 OFFICE MACHINES

A general survey of the business and office machines. Students will receive training in techniques, processes, operation and application of the ten-key adding machines, full keyboard adding machines, and calculator. Prerequisite: None.

T-BUS 115 BUSINESS LAW

A general course designed to acquaint the student with certain fundamentals and principles of business law, including contracts, negotiable instruments, and agencies. Prerequisite: None.

T-BUS 116 BUSINESS LAW

Includes the study of laws pertaining to bailments, sales, risk-bearing, partnership, corporation, mortgages, and property rights. Prerequisite: T-BUS 115.

T-EDP 104 INTRODUCTION TO DATA PROCESSING SYSTEMS

Fundamental concepts and operational principles of data processing systems, as an aid in developing a basic knowledge of computers, prerequisite to the detail study of particular computer problems. This course is a prerequisite for all programming of course. Prerequisite: None.

T-BUS 120 ACCOUNTING

Principles, techniques and tools of accounting, for understanding of the mechanics of accounting. Collecting, summarizing, analyzing, and reporting information about device and merchantile enterprises, to include practical application of the principles learned. Prerequisite: T-MAT 110.

T-BUS 121 ACCOUNTING

Partnership and corporation accounting including a study of payrolls, federal and state taxes. Emphasis is placed on the recording, summarizing and interpreting data for management control rather than on book-keeping skills. Accounting services are shown as they contribute to the recognition and solution of management problems. Prerequisite: T-BUS 120.

T-BUS 223 ACCOUNTING

Additional study of intermediate accounting with emphasis on investments, plant and equipment, intangible assets and deferred charges, long-term liabilities, paid-in capital, retained earnings, and special analytical processes. Prerequisite: T-BUS 222.

T-BUS 225 COST ACCOUNTING

Nature and purposes of cost accounting; accounting for direct labor, materials, and factory burden; job cost, and standard cost principles and procedures; selling and distribution cost; budgets, and executive use of cost figures. Prerequisite: T-BUS 121.

DFT 1121 BLUEPRINT READING

Interpretation and reading of blueprints used by industry. A course designed to develop the ability to read and interpret blueprints, charts, instruction and service manuals, and wiring diagrams. Information on the basic principles of lines, views, dimensioning procedures, and notes. Prerequisite: None.

DFT 1122 BLUEPRINT READING

Interpretation and reading of blueprints used by industry. Information on basic principles of the blueprint; lines, views, dimensioning procedures and notes. Prerequisite: None.

DFT 1123 BLUEPRINT READING

Further practice in interpretation of blueprints as they are used in industry; study of prints supplied by industry; making plans of operations; passing on ideas, information, and processes. Prerequisite: DFT 1122.

DFT 1307 GENERAL DRAFTING

An introductory course in drafting for students needing a knowledge of drawing principles and practices for reading describing objects in the

graphic language. The student is expected to gain basic skills in drawing with instruments, lettering, geometrical constructions, freehand sketching, and describing objects orthographically with principal views. Freehand sketching and orthographic reading are to be emphasized.

ELC 1122 DIRECT AND ALTERNATING CURRENT

A study of the electrical structure of matter and the electron theory, the relationship between voltage, current and resistance in series, parallel and series-parallel circuits. Time will be devoted to the analysis of direct current circuits by Ohm's law and Kirchoff's law; time will be allotted for the study of courses of direct potentials. Fundamental concepts of alternating current flow; a study of reactance, impedance, phase angle, power and resonance. Time will be allotted for alternating current circuit analysis.

ENG 1101 READING IMPROVEMENT

A concentrated effort to improve the student's ability to comprehend what he reads by training him to read more rapidly and accurately. The tachistoscope is used for class drill to broaden the span of recognition, to increase eye coordination and word group recognition, and to train for comprehension in larger units. Reading faults of the individual are analyzed for improvement, and principles of vocabulary building are stressed.

ENG 1102 COMMUNICATION SKILLS

Development to the trainee's ability to communicate effectively with other individuals through the medium of good language usage in speaking and writing, to think more clearly, and to reason more forcefully in work problems pertaining to his job.

ENG 1103 REPORT WRITING

Brief review of English grammar, spelling, and punctuation. Concentrated effort will be applied to the fundamentals of good writings; sentence structure, proper development of descriptive reporting, and the mechanics of report construction. Practice in writing letters and various report forms will be given and some time will be devoted to oral speech and note taking.

MAT 1000 ESTIMATING

This course is designed to give the student a basic understanding of estimating building materials from a blueprint, with emphasis on his major field.

MAT 1120 FUNDAMENTALS OF MATHEMATICS

Practical number theory. Analysis of basic operations, addition, subtraction, multiplication and division. Fractions, decimals, powers and roots percentages, ratio and proportion. Plane and solid geometric figures used in industry; measurement of surfaces and volumes. Introduction to algebra used in trades. Practice in depth.

MAT 1121 MATHEMATICS

Review of fundamental number concepts, operations, and systems of measurement. Mathematical situations dealing with common and decimal fractions, powers and roots, ratio and proportions, and percentages. A study of algebraic and geometric principles and concepts needed in understanding calculations, formulas, solution of equations, and selected plane and solid geometric forms. Prerequisite: None.

MAT 1122 MATHEMATICS

Foundation for a better understanding of applied mathematics. This course is a review of simple mathematical situations dealing with fractions, decimals, conversion of one to the other, short methods and checks, percentages and applications, ratio and proportion, and powers and roots. It will also present an introduction to axiomatic solution of equations and includes special products and factoring, algebraic fractions and their applications to equations. Prerequisites: None.

MAT 1123 MATHEMATICS

Fundamental geometric concepts and construction of plane and solid figures, surface and volume measurements, and related problems; introduction to trigonometry of the right triangle. Introduces gear ratio, lead screw and indexing problems with emphasis on application to the machine shop. Practical applications and problems will furnish the trainee with experience over the wide range of geometric propositions and trigonometric relations in shop problems, concluded by an introduction to compound angle problems. Prerequisite: MAT 1122.

MAT 1124 ALGEBRA

Basic concepts and operations of algebra: historical background of our base-10 number system; algebraic operations: addition, subtraction, multiplication and division; fractions, letter representation, grouping, factoring, ratio and proportions; variation; graphical and algebraic solution of first degree equations; solutions of simultaneous equations by: addition and subtraction, substitution, graphing; exponents, logarithms, tables and interpolation.

MAT 1125 ELECTRICAL MATHEMATICS

To acquaint the student with the fundamental concepts of algebra; basic operations of addition, subtraction, multiplication and division are covered; time is spent in the solution of first order equations, use of letters and signs, grouping, factoring, exponents, ratios, proportions. Solution of equations, both algebraically and graphically; a study of logarithms and use of tables. An introduction to trigonometric functions and their application to right triangles; a study of vectors for use in alternating current.

MAT 1126 TRIGONOMETRY

Trigonometric ratios; solving problems with right triangles, using tables, and interpolating; solution of oblique triangles using law of sines and law of cosines; graphs of the trigonometric functions; inverse functions, trigonometric equations. All topics are applied to practical problems.

MAT 1200 ADVANCED ESTIMATING AND LAYOUT

This course is designed to give detailed methods of estimating and use of the builders level and transit in layout work. Prerequisite: MAT 1000.

WLD 1112 WELDING

Demonstration by the instructor and practice by student in the welding shop. Safe and correct methods of assembly and operating the welding outfit will be emphasized. Practice will be given for surface welding, bronze welding, silver brazing, and flame cutting methods applicable to mechanical repair work. Prerequisite: None.

WLD 1114 SHOP PROCESSES

Comparison of the unit-production and mass-production systems. Casting, forging and allied processes, welding and sheet metal working processes are demonstrated and discussed. Mass-production methods are studied in relationship to precision dimensional control. Prerequisite: WLD 1112.

PHY 1104 APPLIED PHYSICS I

Introductory course in physics, and its applications. Covers systems of measurement, theory of matter, properties of solids, liquids, and gases. Prerequisite: None.

PHY 1105 APPLIED PHYSICS II

Basic principles of electricity, types of electricity, and its production, transmission, and transformation. Such factors as the electron theory, electrical measurement, magnetism, electromagnetism, and the magnetic effects of electricity constitute major areas of study. Prerequisite: PHY 1104.

PHY 1106 APPLIED PHYSICS III

Physical principles of force, energy, work and power; equilibrium and the laws of motion; principles of machines, mechanical advantage, and transmission of power in practical applications and the use of vectors and graphical presentations.

SOC 1101 HUMAN RELATIONS

The purpose of the course is to help the student acquire greater understanding of his relations to other persons through learning and applying some of the basic principles of human psychology. The problems of the individual and his work situation are studied in relations to the established organization of modern business and industry and in relation to government practices and labor organization, with special emphasis on the operating responsibilities of good management.

SOC 1103 MANAGEMENT PROCEDURES

Management procedures are developed to familiarize the prospective businessman with the many important functions that must be carried on in the operation of a small business or enterprise. An introduction to the business world, problems of small business operation, basic business law, business forms and records, financial problems, ordering and inventorying, layout of equipment and offices, methods of improving business, and employer-employee relations are some of the subjects studied.

EXTENSION CLASSES

Extension classes can be offered at the Center or at any other appropriate place which is convenient for the group. These classes will be offered provided as many as ten people are interested in a particular course. Some examples are: speed reading, salesmanship, public speaking, waitress training, nurses' aide, etc.

Extension classes can be started at any time.

Fire Service Training

The units of study are designed to increase the firefighter's technical knowledge and improve his skills in fire-ground operations.

The course outlines (units) are not listed in sequential order and may be presented according to the needs of the individual fire departments. It is suggested, however, that "Firefighting Procedures" conclude any long-range program in which all of the units are studied.

The following titles are the broad classification of material to be presented:

- TIE C/O 6-1 Forcible Entry
- TIE C/O 6-2 Rope Practices
- TIE C/O 6-3 Portable Fire Extinguishers
- TIE C/O 6-4 Ladder Practices
- TIE C/O 6-5 Hose Practices
- TIE C/O 6-7 Salvage and Overhaul Practices
- TIE C/O 6-8 Fire Apparatus Practices
- TIE C/O 6-9 Ventilation
- TIE C/O 6-10 Rescue Practices
- TIE C/O 6-11 Protective Breathing Equipment
- TIE C/O 6-12 Firefighting Procedures

NEW INDUSTRY TRAINING PROGRAMS

Training for new and expanding industry constitutes an important segment of the extension division. In cooperation with the industry involved workers may be trained for specific occupational areas. The facilities of the Center are available to industries for classes, or classes under the Center's supervision may be held elsewhere.

Supervisory Development Training Program

In an effort to meet the needs of North Carolina industry, a Supervisory Development Training Program has been developed by the Department of Community Colleges.

The Supervisory Development Training Program has been developed to train persons interested in becoming supervisors and to provide instruction for supervisors at various levels of management as preparation for advancement.

Programs Available to Supervisors

- I. Individual Course Program
- II. Block of Course Program
- III. Supervisory Development Training Diploma Program

Requirements for Certificates and Diploma

Certificates and diplomas for supervisory training are awarded on the basis of the following: (1) official enrollment, (2) class participation in discussions and projects, and (3) regular attendance. Certificates and diplomas cannot be awarded to those whose attendance is less than eighty per cent of the clock hours assigned to each course.

SDT Courses Currently Available:

Course No.	Course Title	Hours
SDT-1:	Principles of Supervision	44-48
Part I	Fundamentals of Supervision	6-8
Part II	Relationships on the Job	8-10
Part III	Communications	6-8
Part IV	How to Train Workers	6-8
Part V	Performance and Job Evaluation	6-8
Part VI	Job Management	6
Part VII	Work Improvement	6
SDT-2:	Human Relations I	10
SDT-3:	Human Relations II	22
SDT-4:	Art of Motivating People	22
SDT-5:	Economics in Business and Industry	22
SDT-6:	Effective Communications	22
SDT-7:	Effective Writing	22
SDT-8:	Effective Speaking	15
SDT-9:	Reading Improvement	15
SDT-10:	Work Measurement	22
SDT-11:	Job Methods	10
SDT-12:	Conference Leadership	10
SDT-13:	Instruction Training	10
SDT-14:	Creative Thinking	22
SDT-15:	Industrial Safety and Accident Prevention	22
SDT-16:	Industrial First Aid	10
SDT-17:	The Supervisor in North Carolina	10
SDT-18:	The Supervisory and Employee Benefits	10
SDT-19:	Job Analysis Training	12
SDT-20:	Cost Accounting for Supervisors	12
SDT-21:	Supervision in Hospitals	30-40

OTHER SHORT-TERM COURSES

Salesmanship, Income Tax Procedure, Speed Reading, and any of several short courses may be offered from time to time when 10 or more persons register for these courses.

LEARNING LABORATORY

Persons interested in participating in the Learning Laboratory, after an initial interview, are provided study materials starting at a point in keeping with their achievement level and are able to progress from there. Students may elect study time adjusted to their own convenience and schedules in that the Laboratory will be in operation on a schedule adjusted to the needs of participants.

The Fundamentals Learning Laboratory system was designed by Dr. Edward T. Brown of the North Carolina Department of Curriculum Studies and Research. Labs are operated throughout the State under the North Carolina Department of Community Colleges in cooperation with the Community Colleges, Technical Institutes, and Industrial Education Centers. At the present time, there are thirty-two Learning Laboratories in operation over the State.

A "Learning Laboratory" is essentially an individual study situation, in which any person eighteen years of age or older may undertake most any level of reading, English, math, social studies, or science that he desires. All of the material used in the lab is programmed; therefore, there is no need for a classroom teacher. In fact, Dr. Brown has attempted to remove all resemblances of a classroom from the Learning Lab.

Programmed material is designed in such a manner as to aid the student in learning information to small sequences called "Frames." Each frame requires an immediate response, and each response is immediately checked. If the student fails to learn, or learns incorrectly, the program makes the correction or re-teaches. In this manner the student progresses at his own rate; he neither has to wait for others to catch up nor slow down to someone else's rate.

The coordinator, the person in charge of the learning lab, has the responsibility of locating the level at which a student can proceed to learn by himself, of formulating the sequence of programs the students will undertake to achieve his desired goal, and of administering the tests that will assure the student that he is approaching his goal.

Because there are no classes in the learning lab, there is no need for anyone to wait until the new quarter to enroll. Each student sets his own work sessions and attends the lab as many days each week and as many hours each day as he thinks he can attend regularly. There are no fees, and any adult can take as many courses as fit his needs.

The majority of students presently enrolled in learning labs are seeking to prepare themselves for the high school equivalency examination or to gain educational improvement of their own choosing. Some, however, are enrolled to upgrade themselves for a possible job promotion, while others are using the program for reinforcement in a technical curriculum or in their college work.

The stated purposes for the existence of the learning laboratories suggest that every effort should be made to meet the needs of those who are interested in participating in the program.

Admission Requirements For Learning Laboratory

Any adult who has a desire to raise his or her educational level and who is able to benefit from study in the Learning Laboratory.

Expenses

There is no charge for study in the Learning Laboratory.

APPLICATION FOR ADMISSION

MARION - McDOWELL
INDUSTRIAL EDUCATION CENTER
29 STATE STREET
MARION, NORTH CAROLINA

(Please Print)

NAME: Mr. _____
Mrs. _____
Miss _____
(First) (Middle) (Last)

LOCAL ADDRESS: _____
(Street or RFD) (City) (County) (State) (Phone)

DATE OF APPLICATION _____ DATE OF BIRTH _____ AGE _____ SEX _____
MARITAL STATUS _____

TYPE PROGRAM APPLYING FOR: () Vocational () Technical
WHEN WILL YOU ATTEND THIS INSTITUTION: () Day () Evening

PARENTS NAME _____ PHONE _____

ADDRESS _____ OCCUPATION _____

PRESENT EMPLOYER AND ADDRESS _____

SOCIAL SECURITY NUMBER _____

LAST HIGH SCHOOL ATTENDED

ADDRESS DATE GRADUATED

COLLEGES ATTENDED

CIRCLE HIGHEST GRADE ATTENDED: 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16

PERSONAL REFERENCES:

1. (Name) (address) (occupation) (phone)
2.
3.

CURRICULUM APPLIED FOR: () Business Administration () Business Secretarial

() Executive Secretarial () Practical Nursing

() Electrical Installation and Maintenance () Mechanical Drafting () Auto Mechanics

In Case of Emergency notify: (Name) (Address) (Phone)

*NOTE: A \$5.00 application fee must be included with this application. If your application is not approved, your money will be refunded to you.

SIGNATURE OF APPLICANT

